

CLAIMS

1. Method for determining the position of an object, in particular a vehicle such as a train, moving
5 along a known course, characterised by the following steps
:

- determining an absolute position of said object with a first confidence interval,
- determining a relative position of said object with a
10 second confidence interval,
- selecting the smaller confidence interval among said first and said second confidence interval,
- determining said location and/or positioning of said
15 object by means of the position corresponding to said smaller confidence interval.

2. Method according to claim 1, characterised in that said absolute position is determined by a railway-safe positioning method involving a digital mapping of the possible trajectories, and at least one
20 satellite communication receiver.

3. Method according to claim 2, wherein said satellite communication receiver is a GNSS receiver.

4. Method according to claim 1, 2 or 3, characterised in that said relative position is calculated
25 by detecting the presence of a beacon, and by integrating the speed of said object, with reference to the location of said beacon.

5. Method according to claim 4, characterised in that said speed is calculated via the GNSS
30 Doppler signal.

6. Method according to any of the preceding claims, characterised in that said confidence intervals

determine the position of said object with an error probability in the order of 10^{-9} , preferably 10^{-12} .

7. Method according to any of the preceding claims, characterised in that said first confidence
5 interval for said absolute position is in the order of 50 m.

8. Location device for determining the position of an object, in particular a vehicle such as a train, moving along a known course, characterised in that
10 it comprises an absolute position determining system yielding a first confidence interval and comprising means to access a digital mapping of possible trajectories, and at least one satellite communication receiver, and a relative position determining system yielding a second
15 confidence interval and comprising means to detect the presence of beacons placed along said course.

9. Location device according claim 8, characterised in that it further comprises means for selecting the smaller confidence interval among said first
20 and said second confidence interval and wherein the location and/or positioning of said object is determined according to the method of any of the claims 1 to 6.

10. Location device according claim 8 or 9, wherein said satellite communication receiver is a GNSS
25 receiver.